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An Annotated List of the Caddisflies (Trichoptera) of Virginia: Part I. Introduction and Families of Annulipalpia and Spicipalpia

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ABSTRACT

A total of 203 species of caddisflies in the families Dipseudopsidae, Glossosomatidae, Hydropsychidae, Hydroptilidae, Philopotamidae, Psychomyiidae, and Rhyacophilidae are documented for Virginia, 46 of them not previously known for the state. Counties of known occurrence are given for all species; detailed collection data are provided for rare species, those which constitute substantial range extensions, and those new to the state. The distribution of each genus and species is also summarized. An introductory section reviews present and historical work on Virginia caddisflies.

Key words: Trichoptera, caddisflies, Virginia, Dipseudopsidae, Glossosomatidae, Hydropsychidae, Hydroptilidae, Philopotamidae, Psychomyiidae, Rhyacophilidae.

INTRODUCTION

Virtually every freshwater habitat in the world – from lakes and swamps to mountain springs and torrents, even vertical seepage faces – is occupied by a diversity of remarkable insects called caddisflies, species of the order Trichoptera. Despite an obvious kinship with butterflies and moths, these aquatic creatures differ in lacking the long, coiled feeding device common to most Lepidoptera, and in the fact that the immature stages are modified for existence underwater. And it is in the life styles of the caterpillar-like feeding stage that caddisfly diversification is most dramatically expressed. Some larvae are free-ranging predators, others feed upon microscopic organic particles screened from flowing water in fine nets of their own manufacture, still others are detritivores which browse and grind submerged plant materials. Many larvae are case-makers, able to construct tubular homes of amazing complexity from sand grains, plant fragments, small pebbles; others live inside small lengths of empty plant stems. Despite the variability thus expressed, most caddisfly larvae are basically similar in structure and appearance.

Along with the immature stages of mayflies (Ephemeroptera), caddisfly larvae frequently occur in populations of astronomical size, the two kinds of organisms thus constituting the dominant primary consumers in aquatic ecosystems, reducing organic

material and serving as food for a wide spectrum of secondary consumers. The importance of both the larvae and adult stages as a food source for trout wins understanding and appreciation from fly fishermen, and it is not surprising that one of the leading specialists on the classification of caddisflies gradually progressed to that status from his original interest in producing "dry flies" modeled after the insects to serve as lures in trout fishing.

Compared to other orders of holometabolous insects, the Trichoptera is not a large one, with about 9,000 species so far known world-wide, and over 1,400 in the United States. The first North American species to be described were named mostly by European specialists (among them Francis Walker, Robert MacLachlan, and Herman Hagen), although some of our commoner species were named by the indefatigable Thomas Say. The era of more local interest, however, may be considered as beginning with the work of Nathan Banks, who investigated Trichoptera (and many other kinds of arthropods) from about 1894 to his last publication on the North American fauna in 1951. Banks virtually monopolized the field until the mid-1930s, when the appearance of Bettens's *The Caddis flies or Trichoptera of New York State* in 1934 catalyzed new interest in the group by such specialists as D. G. Denning, L. J. Milne, and especially Herbert H. Ross who reigned as *facile princeps* of American Trichopterology until his death in 1978. Ross named hundreds of new species and applied modern systematic methodology to the study of caddisflies, but his single most influential contribution was *The Caddis Flies, or Trichoptera, of Illinois*, which appeared in 1944, only ten years after Betten's work. Achieving a high standard in both taxonomic precision and graphic presentation, Ross' work transcended the stated limits of its title and implicitly became the "bible" for studies of this group in North America. Following its publication, a new generation of entomologists commenced studies on the order, bringing knowledge of the Nearctic fauna to a reasonably mature level. While localized "new" species continue to be discovered, and precision in the definition of geographic ranges enhanced, it is surely correct to assume that the adult caddisflies of eastern United States are now mostly known. That the young stages of numerous species remain to be identified and described goes, of course, without saying.

That political boundaries are highly arbitrary, almost never reflecting natural regions, is generally appreciated. Nonetheless, various pragmatic considerations result in the study of biotas in the contexts of country, state, or province, yielding an eventual, highly incomplete mosaic of regional studies. These are not without scientific merit, however, and provide useful insights into the representation of various taxa in various geographic areas, to the extent that modern taxonomy underlies the specific identifications. The patterns by which caddisflies are distributed in Alabama, for instance, are often of interest to students of these insects elsewhere in the United States.

Published reports about regional faunas frequently evolve through several stages before achieving the comprehensive status of the Illinois manual. A common "alpha stadium" in this progression is often a simple list of the taxa known for the area up to a certain point in time. It provides a baseline of names with no further information, in effect, a status report or the staking of a claim. A somewhat more sophisticated level is attained in an *annotated checklist* by inclusion of facts about geographic and seasonal distribution, and occasionally taxonomic status. Such a compendium may serve as a precursor for the definitive treatment that would include descriptions, keys, illustrations, maps, and biological information.

Although knowledge of the Virginia caddisfly fauna has been greatly augmented during the past decade, it is all too obvious that our overall comprehension of the group as it occurs locally is still highly fragmentary, requiring perhaps another equal time span to reach a desired level of adequacy. We venture at this time to summarize current information in the annotated list format, desirably a springboard from which the definitive "Trichoptera of Virginia" may be launched. The large number of species (nearly 400) favors serial publication, and we commence with eight families traditionally referred to the nominal suborders Annulipalpia and Spicipalpia. Taxa of the suborder Integripalpia, discussions, and bibliography will follow in a subsequent part.

VIRGINIA COLLECTIONS

Although caddisflies have been collected opportunistically in Virginia by a large number of entomologists and aquatic biologists for over a century, the first resident who conducted intensive sampling was Nathan Banks. During the period of his employment (1890 to1916) at the United States National Museum (USNM), Banks lived at Falls Church (then a small rural village) and collected regularly there as well as at other sites mostly in Fairfax County. Some of Banks' specimens were deposited in the USNM, but most moved with him to the Museum of Comparative Zoology (MCZ) at Harvard University. Banks' 1904 list of "neuropteroid" insects of the District of Columbia incorporated all of his Virginia records, but, unfortunately, did not provide individual collection data for all species.

Oliver S. Flint, with an initial interest in immature stages, had collected caddisflies in Virginia as early as

1955, but his activities in the state intensified upon assuming a curatorial position at the USNM in 1961 and a residency in Alexandria. He conducted a number of investigations in northern Virginia, along the Blue Ridge, and in Bath and Highland counties in the Alleghenies, extending further into southwestern Virginia in more recent years.

Following his first encounter with Ross' Illinois manual, Richard L. Hoffman began collecting caddisflies in May 1950. For the next several years he continued collecting in southwestern Virginia, chiefly at lights, sending his captures to H. H. Ross. In 1989 the previously desultory efforts were greatly intensified following establishment of the Virginia Museum of Natural History (VMNH) and the initiation of statewide surveys of numerous insect groups. Utilizing black light, he extended his activities widely across the southwestern counties and especially the virtually uncollected counties of Southside Virginia. This material, accumulating at VMNH, was almost entirely identified by Charles R. Parker, with whom he coauthored an account of the Trichoptera obtained over several years in Greensville County (Hoffman & Parker, 1997).

A major impetus in the study of Virginia Trichoptera occurred in the 1970s when a program of chiefly ecological research on aquatic insects was commenced at Virginia Polytechnic Institute and State University under the direction of J. R. Voshell. During the period of 1976-1980, Charles R. Parker conducted studies, leading to his doctoral dissertation, on the faunas of the North and South Anna rivers in Louisa County. During this period he implemented a growing interest in the taxonomy and faunistics of Virginia caddisflies by building up an extensive collection at VPISU, abetted by contributions from many other students and faculty members. Although not enlarged since Parker's graduation, this collection remains one of the three primary sources of information on the Virginia fauna, and formed the basis of the first checklist of Virginia Trichoptera (Parker & Voshell, 1981).

Contemporaneously with the VMNH inventory activities, 1989 to 2003, systematic collecting of insects was conducted by staff zoologists (primarily Steven M. Roble, Anne C. Chazal, and Christopher S. Hobson) of the Division of Natural Heritage, an agency within the Virginia Department of Conservation and Recreation. VDNH personnel surveyed numerous sites scattered over the entire state, and accumulated extensive series of caddisflies which have been routinely transmitted to VMNH for preparation and identification. Many new state species records and innumerable localities for recorded species have resulted from this interagency cooperation.

Since only about half of the known Virginia caddisflies are listed in the following pages, an analysis of their distributional patterns in the state is deferred pending completion of the second installment. Nonetheless, several preliminary impressions may be stated in advance. The most superficial inspection of the various species accounts will impress the fact that some species are widespread across the state in nearly every aquatic habitat while others appear to be very localized and collected largely by serendipity. That caddisfly dispersal is accomplished largely by the random flight of gravid females may account for "spotty" and disjunct populations, many of which may survive only brief tenure in colonized biotopes. Certainly, not all apparently suitable habitats in any given region will be occupied. It is unknown, for instance, whether the fragmentary range of *Hydropsyche franclemonti* is the result of incomplete collecting or of a declining status with small relictual populations surviving from a once-continuous distribution. That additional species continue to turn up at sites considered to be adequately sampled suggests very brief periods of adult activity, mandating more attention to the collection of larvae. Many species which are not as adults attracted to ultra-violet light are under-collected by too much reliance upon blacklighting. In short, adequate knowledge of the current Virginia distribution of many species will not be realized for many years, as especially shown by the ongoing discovery in the state of undescribed species such as *Hydropsyche brunneipennis*, and populations of others far beyond their previously known range. *Hydroptila acadia* and *Ceraclea ruthae* (treated in Part 2 of this list) are remarkable examples of such additions. It is perhaps correct to surmise that almost any caddisfly species known from east of the Mississippi River may be discovered as an inconspicuous and localized resident of the Commonwealth.

ORGANIZATION

The three primary sources of material reflect the activities of the authors of this list. National Museum of Natural History (USNM: Flint, since 1960); Virginia Polytechnic Institute and State University (VPISU: Parker, primarily in 1976-80); Virginia Museum of Natural History (VMNH: Hoffman, since 1989). Other records have been obtained from collections at the University of Tennessee (UT: David A. Etnier); Carnegie Museum of Natural History (CMNH: John E. Rawlins), and Colorado State University (CSU: Boris C. Kondratieff). Some identifications of specimens sent to the Illinois Natural History Survey (INHS) were provided by H. H. Ross (*in litt.*). The vast majority of the records are based upon adult specimens.

A number of species were originally based on

specimens collected in Virginia. We highlight these with the abbreviation "T.L.", and citation of the type locality. Many of the species (46) are documented for Virginia for the first time; their names are prefixed with an asterisk (*).

For ease in reference, all taxa are listed alphabetically, and - owing to the unsettled state of Trichoptera classification - families are not separated on the basis of subordinal grouping. Species accounts contain a general statement of species' total and Virginia distributions. Most Virginia records are referenced only by counties and cities but detailed collection data and commentary are provided for rare species, those new to the state, and those which constitute substantial range extensions. The range of months during which adults have been captured is also included.

The present list documents 37 genera and 203 species (plus one questionable records based on a female) known to occur in Virginia, approximately half of the anticipated final total.

ANNOTATED LIST

Family Dipseudopsidae

Genus *Phylocentropus*

This genus is limited to eastern Asia and eastern North America, although well represented in Baltic amber. Five species are known from North America, all from east of the Mississippi River.

Phylocentropus auriceps Banks: The species reaches its northernmost distribution in southwestern Virginia from where it is found southerly in the mountains to Georgia. The Franklin County locality (Grassy Fork Creek) is noteworthy for being disjunct some 160 km northeast from the others, and at a low elevation (300 m) in the Piedmont instead of above 1000 meters. Franklin, Smyth, Tazewell, and Washington Cos., May-June.

**Phylocentropus carolinus* Carpenter: Although the species is known from southern Canada throughout eastern North America to the Gulf Coast including Louisiana, it had not been taken before in Virginia. The two known sites are widely separated, one on the Coastal Plain, the other in the upper Piedmont. Franklin Co., Grassy Fork Creek, Rt. 619, 3.2 km SE Snow Creek, 14 May 2003 (NMNH). Middlesex Co., Dragon Run Swamp, Rt. 603, 4.8 km W Warner, 21 May 1987 (VMNH); same data, but 20 May 2003 (NMNH).

Phylocentropus lucidus (Hagen): The species is widespread from southern Canada to Florida and west to the Mississippi River. It is generally taken at small spring runs throughout the state, but is rarely taken in the Coastal Plain. Brunswick, Dickenson, Dinwiddie, Essex, Fairfax, Fauquier, Floyd, Franklin, Giles, Grayson, Halifax, Highland, Louisa, Patrick, Prince William, Rockbridge, Tazewell, and Washington Cos., May-September.

Phylocentropus placidus (Banks) (*P. hansoni* Root is a synonym): This species is widespread from southern Canada to the Gulf and west to the 100th meridian. It occurs in Virginia on the Coastal Plain and Piedmont, often near ponds. Brunswick, Dinwiddie, Fairfax, Fauquier, Greensville, Henrico, Louisa, Mecklenburg, Middlesex, Prince William, Southampton, Spotsylvania, Stafford and Wise Cos., and City of Chesapeake, May-September.

Family Glossosomatidae

Genus *Agapetus*

The genus (and/or its subgenera - *sensu* Ross, 1956) is found throughout the Northern Hemisphere, and into South Africa and Australia, but not in the Neotropical Realm. At least one undescribed species is known from southwestern Virginia.

Agapetus hessi Leonard & Leonard: There are scattered records of the species from southern Canada south through the Appalachians to Alabama, and west to Wisconsin. It had been recorded from Virginia (Schmid, 1982), but without locality. The few known Virginia localities are all in the Ridge and Valley and Blue Ridge physiographic provinces. Bath, Montgomery, and Patrick Cos., and City of Radford, May-July.

Agapetus iridis Ross: This species has a distribution much like the preceding, southern Quebec to Alabama, but not west of the Appalachians. Bath Co., Jackson River, Rt. 603, 3.2 km S Rt. 687, 11 September 1979 (NMNH); Hot Springs, Homestead Hotel, stream flowing through grounds, 18 April 1974 (NMNH). Carroll Co., Stewarts Creek State Wildlife Management Area, ca. 2.4 km NW Lambsburg, 9 July 1994 (VMNH).

**Agapetus minutus* Sibley: The species is known from scattered records from southern Ontario south through the Appalachians to the Great Smoky Mountains. This is the first known record from Virginia. Giles Co., Sinking Creek, Rt. 605, 0.4 km S Rt. 460, 27 March 2002 (UT).

**Agapetus pinatus* Ross: A species with essentially the same distribution as *A. iridis*, it appears not to have been

recorded from Virginia before. The Virginia records are from the Blue Ridge and adjacent mountains. Grayson Co., 6.4 km W Troutdale, 24 July 1970 (NMNH). Rappahannock Co., Hughes River, Rt. 707, 7 July 1979 (VMNH).

Agapetus rossi Denning: The species is found throughout the Appalachians from southern Canada to Alabama and west to Minnesota. It is encountered from the upper Piedmont to the western border of Virginia. Bath, Bland, Botetourt, Fairfax, Hanover, Shenandoah, and Tazewell Cos., May-June.

**Agapetus tomus* Ross: This is another species with scattered records in the Appalachians from Pennsylvania to Alabama with an outlier in Minnesota. It has not been recorded from Virginia before, where it is only known from several sites on the Holston River system. Smyth Co., South Fork Holston River at St. Clair Bottom, 18 May 1990 (UT); South Fork Holston River, 7.8 km E Thomas Bridge Road on South Fork Road, 27 March 2002 (UT); North Fork Holston River, Rt. 620, near Nebo, 17 May 1990 (UT); same data, but 15 May 2004 (NMNH).

Genus *Culoptila*

This is a genus primarily of Mexico, Central America, and the southwestern United States, with two species being recorded also from east of the Mississippi River.

**Culoptila cantha* (Ross): This species has a disjunct continental distribution, being recorded from the Rocky Mountain states and Maine and Maryland in the east. It is known from the Maryland side of the Potomac River opposite Fairfax Co., but not actually recorded from Virginia before. Floyd Co., Greasy Creek at Rt. 622, 18 July 1988 (VMNH).

Genus *Glossosoma*

A large, diverse genus of the northern Hemisphere, most of the North American species are limited to the western states and provinces.

**Glossosoma intermedium* Klapalek: The species is Holarctic in distribution, primarily at higher latitudes. These records from central-western Virginia appear to be at or near its southernmost distribution in the United States. Highland Co., Blue Spring, 1.6 km N Williamsville on Rt. 678, 3 May 1981 (VPISU); Bullpasture River, Rt. 678, 1.6 km N Williamsville, 3 February 1980 (VPISU). Nelson Co., South Fork Tye River at Crabtree Falls Recreational Area, 12 September 1980 (VPISU).

**Glossosoma lividum* (Hagen): The species is known from the eastern provinces of Canada and the northeastern United States. There is an unsubstantiated record of the species from the mountains in North-South Carolina in June, otherwise these are the southernmost records for the species: Bath Co., Blowing Springs Campground, Rt. 39, 12.8 km W Warm Springs, 16-17 May 1975 and 10 September 1979 (NMNH); Jackson River at Rt. 603, 3.2 km S Rt. 687, 11 September 1979 (NMNH).

Glossosoma nigrior Banks: The species is very common throughout eastern North America as far west as Minnesota. In Virginia, the species is known from the Piedmont to the border with West Virginia. It has not yet been taken in the Appalachian Plateau counties. Amherst, Bath, Caroline, Carroll, Craig, Fairfax, Fauquier, Floyd, Franklin, Giles, Grayson, Madison, Montgomery, Nelson, Patrick, Rockbridge, Rockingham, Smyth, Shenandoah, Spotsylvania, Tazewell, and Washington Cos., March-September.

Genus *Matrioptila*

This is a monotypic genus limited to the eastern United States.

Matrioptila jeanae (Ross): The species is found from Pennsylvania south to Alabama. In Virginia it has been taken from the Piedmont to west of the Blue Ridge. Craig, Fairfax, Floyd, Grayson, Hanover, Henry, Montgomery, Patrick, and Smyth Cos., May-June.

Genus *Protoptila*

The genus is very large and diverse in the New World, with many hundred species found in the Neotropical Realm, but only a comparatively few east of the Mississippi River in North America.

Protoptila georgiana Denning: The species is only known from Alabama, Georgia, and Virginia. It has been taken numerous times in the Piedmont and west of the Blue Ridge in Virginia as far north as the Potomac River in Maryland opposite Fairfax Co. Augusta, Campbell, Caroline, Carroll, Clarke, Culpeper, Fairfax, Floyd, Franklin, Grayson, Hanover, Louisa, Nelson, Montgomery, Pittsylvania, Sussex, and Warren Cos., May-October.

**Protoptila lega* Ross: This species is known from southern Canada south to Alabama and west to the 100th

meridian. The few Virginia records extend from the Coastal Plain to the mountains. Carroll Co., Big Reed Island Creek at US Hwy. 221, 9 September 1989 (VMNH). Grayson Co., New River at Fries, boat landing area, 8 September 1989 (VMNH). Hanover Co., South Anna River, falls at Rt. 657, 12 June 1978 (NMNH). Sussex Co., Chub Sandhill Natural Area Preserve, 10 km SE Sussex, 21 May 1996 (VMNH), Nottoway River at Rt. 651, N of Emporia, 19 May 2004 (CSU).

Protoptila maculata (Hagen): This is the most widespread and common species of the genus in eastern North America. It is known from southern Canada south to Alabama and Texas west to the 100th meridian. Virginia records are all from the Blue Ridge and west. Amherst, Augusta, Bath, Bedford, Bland, Carroll, Floyd, Giles, Montgomery, Pulaski, Rockbridge, Smyth, Washington, and Wythe Cos., May-September.

Protoptila palina Ross: All records of this species are from east of the Mississippi River, from Maine to Alabama. It is known primarily from the southern half of Virginia from the Piedmont to the far southwestern corner. Bath, Caroline, Carroll, Fairfax, Giles, Greensville, Hanover, Henry, Lee, Montgomery, Rockbridge, Russell, Sussex, and Washington Cos., May-September.

Family Hydropsychidae

Genus *Arctopsyche*

This is a genus of perhaps two dozen species primarily of the high northern latitudes, but extending south in the mountains of Asia and North America.

**Arctopsyche irrorata* Banks: This species was previously known only from the southern Appalachian mountains of North Carolina and Tennessee. In Virginia it has only been taken at the western base of Mount Rogers at about 1200 m in elevation. Grayson Co., headwater tributary of Lewis Fork, Lewis Fork Trail, Rt. 603, 5 June 1982 (VPISU).

Genus *Cheumatopsyche*

A very large genus found in most of the warmer regions of the world except for the Neotropical Realm; it contains at least 50 species in North America.

Cheumatopsyche analis (Banks) (= *C. pettiti* Banks): This is one of the most widespread species in North America, being found all across the United States and southern Canada, including Hawaii, except for the southwestern states. It is equally widespread in Virginia, from sea level to above 1000 meters, with an extended period of adult activity. Accomack, Augusta, Bath, Bedford, Brunswick, Caroline, Charlotte, Chesterfield, Clarke, Dinwiddie, Fairfax, Fauquier, Floyd, Franklin, Frederick, Greensville, Halifax, Hanover, Lee, Louisa, Middlesex, Montgomery, Northampton, Pittsylvania, Roanoke, Rockbridge, Shenandoah, Smyth, Sussex, Tazewell, and Washington Cos., March-October. Our preference for use of the name *C. analis* is explained in a recent discussion by Flint et al. (2003).

**Cheumatopsyche burksi* Ross: This eastern species has been recorded from Kentucky to Florida and west to Arkansas, but mostly east of the Mississippi River. This first record from Virginia is from the Appalachian region. Montgomery Co., Little River at end of Rt. 691, 5.3 km from intersection with Rts. 672/691, 29 May 1975 (UT).

Cheumatopsyche campyla Ross: The species is equally as widespread in North America as *C. analis,* except it does not occur in Hawaii and does inhabit the Southwest. It is not as frequently taken in Virginia as *C. analis*, and appears to largely avoid the Coastal Plain. Alleghany, Bath, Bedford, Caroline, Clarke, Dickenson, Fairfax, Fauquier, Franklin, Grayson, Greensville, Hanover, Louisa, Lunenburg, Montgomery, Pittsylvania, Prince William, Pulaski, Rockbridge and Rockingham Cos., May-September.

Cheumatopsyche ela Denning: This species is widespread in eastern North America from southern Canada to the Gulf, but not west of the Mississippi River. It is primarily a species of the Virginia Piedmont and mountains. Appomattox, Botetourt, Campbell, Caroline, Carroll, Clarke, Craig, Dinwiddie, Fairfax, Fauquier, Giles, Grayson, Greensville, Halifax, Hanover, Henry, Loudoun, Louisa, Montgomery, Page, Rockbridge, Scott, Shenandoah, Smyth, Warren, and Washington Cos., and City of Radford, April-October.

Cheumatopsyche enigma Ross, Morse, & Gordon: This species is less widely distributed than *C. harwoodi,* being recorded only from Virginia to Georgia, with disjunct records from Arkansas and Missouri. In Virginia there are a few records from the Coastal Plain and Piedmont, but most are from the Blue Ridge and west. Bath, Bedford, Fauquier, Floyd, Giles, Grayson, King & Queen/Middlesex, Louisa, Montgomery, Patrick, Smyth, and Tazewell Cos., May-September.

**Cheumatopsyche etrona* Ross: The species has a very limited distribution in the southern Appalachians from

Georgia to North Carolina. This, the first Virginia record and northernmost for the species, is from the eastern edge of the Blue Ridge. Patrick Co., Dan River at Kibler Valley, 20 September 2002 (VMNH).

Cheumatopsyche geora Denning: This caddisfly is limited to the eastern seaboard from Connecticut south to the Gulf of Mexico. The Virginia records are scattered widely across the state. Arlington, Bedford, Campbell, Caroline, Culpeper, Fairfax, Fauquier, Halifax, Hanover, Lee, Montgomery, Patrick, Pittsylvania, Rappahannock, and Shenandoah Cos., May-September.

Cheumatopsyche gracilis (Banks): The species is widely distributed across North America with records scattered all across southern Canada south, but lacking in most of the southern states and the far west. The few Virginia records are in the Ridge and Valley physiographic province. Bath Co., Gilletts Run, 16 km N Warm Springs, 17 July 1971 (NMNH); Big Back Creek, Blowing Springs Campground, 29-30 August 1973 (NMNH); Jackson River below Back Creek (exact date not recorded), 1973 (VPISU). Giles Co., Sinking Creek at Newport Recreation Area, 30 May 1974 (NMNH). Washington Co., South Fork Holston River at Rt. 91, near Damascus, 24 September 1981 (NMNH).

Cheumatopsyche gyra Ross: An east coast species known from Maine to Georgia, *C. gyra* has been taken only a few times in Virginia in the Blue Ridge and Ridge and Valley provinces. Bath, Nelson, and Rockbridge Cos., May-September.

Cheumatopsyche halima Denning: This species is limited to eastern North America from Quebec to South Carolina with an outlying record from Arkansas. The few Virginia records are from the Blue Ridge and Mount Rogers areas. Botetourt Co., Jefferson National Forest, ca. 8 km E Buchanan, 19-20 June 1961 (NMNH). Nelson Co., Wintergreen Resort, 28 July 1979 (NMNH); same data, but 11-12 July 1981 (NMNH). Rockbridge Co., Guys Run, 6 June 1978 (VPISU); Washington Co., tributary to Straight Branch at Beartree Campground, 26 July 1979 (VPISU).

Cheumatopsyche harwoodi Denning: This species is widely distributed over all of North America east of the Mississippi River. In Virginia it is found primarily west of the Blue Ridge, with a few scattered sites in the Piedmont. Augusta, Bath, Bedford, Botetourt, Caroline, Franklin, Giles, Grayson, Greensville, Louisa, Madison, Montgomery, Nelson, Patrick, Rappahannock, Roanoke, Rockbridge, Smyth, Washington, and Wise Cos., May-September.

Cheumatopsyche minuscula (Banks): The species is widespread over eastern North America as far west as the 100th meridian. It is found in Virginia from the Piedmont to the western edge of the state. Alleghany, Bath, Botetourt, Dickenson, Fairfax, Fauquier, Floyd, Giles, Grayson, Lee, Montgomery, Nelson, Pulaski, Roanoke, Rockbridge, Rockingham, Russell, Shenandoah, Smyth, and Washington Cos., May-September.

Cheumatopsyche oxa Ross: This species is widely distributed in North America: all across the southern provinces in Canada, but missing from the Rocky Mountain and Pacific Coast states. In Virginia it occurs from the Piedmont to the western border, although there are still no records for the Appalachian Plateau province. Bedford, Carroll, Clarke, Craig, Fairfax, Fauquier, Floyd, Giles, Lee, Montgomery, Nelson, Patrick, Rappahannock, Russell, Shenandoah, Tazewell, and Washington Cos., May-September.

Cheumatopsyche parentum Gordon: This species has a very restricted distribution in the mid-Atlantic states (Maryland and Virginia only), although the Virginia range implies that it must occur at least into North Carolina, with records across the entire Piedmont: Fall Line in Greensville Co. to the edge of the Blue Ridge in Patrick Co. T.L. - Fairfax Co., Bull Run Park, 20 May 1962 (NMNH). Caroline, Fairfax, Greensville, Hanover, Louisa, Lunenburg, and Patrick Cos., April-September.

Cheumatopsyche pasella Ross: This species is widely distributed east of the Mississippi River in the United States and Canada, with extensions westward to Oklahoma and across the northern states to Oregon and Washington. In Virginia it is widespread in the Piedmont and Blue Ridge, and areas immediately to the west. Appomattox, Bedford, Botetourt, Brunswick, Campbell, Caroline, Carroll, Clarke, Craig, Culpeper, Dinwiddie, Fauquier, Fairfax, Floyd, Franklin, Greensville, Halifax, Hanover, Louisa, Montgomery, Patrick, Pittsylvania, Shenandoah, Southampton, and Sussex Cos., and City of Radford, May-September.

Cheumatopsyche pinaca Ross: The species is widespread along the eastern seaboard from Maine to Louisiana. It appears to be partial to the Coastal Plain and Piedmont regions in Virginia. Essex, Fairfax, Fauquier, Floyd, Franklin, Halifax, Hanover, Henry, Louisa, Pittsylvania, and Westmoreland Cos. and City of Galax, April-July.

Cheumatopsyche sordida (Hagen): The species is widespread in eastern North America as far west as the 100th meridian. All of the Virginia localities are from the mountainous areas in and west of the New River Valley. Grayson, Montgomery, Smyth, and Wythe Co., and City of Radford, May-August.

Cheumatopsyche speciosa (Banks): This species is widespread over eastern North America as far west as Alberta, Montana, and Colorado, but absent along the Gulf Coast. In Virginia it has been found only in the northern Piedmont. Arlington Co., Glencarlyn, 2 July (no year on label) (NMNH). Fairfax Co., Falls Church, 6 July 1961, 10 June 1962, and 7 September 1962 (NMNH).

Cheumatopsyche virginica Denning: This species is limited to the Atlantic and Gulf Coasts in the United States. In Virginia, it is only known from the extreme southeastern corner. T.L. - "Dismal Swamp" without further specification, 13 August 1934 (Univ. Kansas). City of Chesapeake, Feeder Ditch, Dismal Swamp, 16 June 1973 (VPISU).

Cheumatopsyche wrighti Ross: This species is known from scattered records from the mountains of eastern Tennessee north to Nova Scotia. In Virginia it has only been recorded from the Blue Ridge and Ridge and Valley provinces. Bath, Bland, Floyd, Giles, Highland, Nelson, Rockbridge, and Smyth Cos., May-July.

Genus *Diplectrona*

This is a large genus of approximately 100 species, widely distributed around the world, and in Asia as far as New Zealand, but absent from Africa and the New World south of Guatemala. It is a rather heterogeneous assemblage of species that is probably polyphyletic.

Diplectrona metaqui Ross: A species known from Connecticut to Georgia and west to Missouri, it is most readily identified by modifications of the head capsule and mouthparts in the larva. The few scattered Virginia records, all based on larvae, are from the upper Piedmont to west of the Blue Ridge. Bath, Fauquier, Giles, and Wythe Cos., February-December.

Diplectrona modesta Banks: This species is widely distributed in eastern North America west to the 100th meridian. It is found throughout Virginia from the upper Piedmont west. Alleghany, Augusta, Bath, Bland, Botetourt, Craig, Culpeper, Dickenson, Fairfax, Fauquier, Floyd, Franklin, Giles, Grayson, Madison, Montgomery, Nelson, Page, Patrick, Rappahannock, Rockbridge, Rockingham, Shenandoah, Smyth, Stafford, Tazewell, Washington, and Wise Cos., April-September.

Genus *Homoplectra*

Homoplectra contains about a dozen species, three limited to the eastern United States, the remainder to the far west. The two local species are only infrequently collected.

Homoplectra doringa (Milne): This species occurs from New Hampshire to Alabama and west to Arkansas. We only have two records of the species from the Alleghenian region in the southwestern part of the state. Montgomery Co., tributary of Craig Creek, Rt. 621, 1.3 km E jct. Rt. 460, 31 May 1978 (VPISU). Washington Co., tributary of Spring Creek, Rt. 663, 2.7 km E Rt. 647, 9 April 2003 (UT).

Homoplectra monticola (Flint): The species has a very restricted distribution, being known only from Pennsylvania, West Virginia, and Virginia. In Virginia it has been taken on and west of the Blue Ridge. T.L. - Madison Co., Hogcamp Branch, just below Skyline Drive, Shenandoah National Park, 24 June 1961 (NMNH). Giles, Madison, Tazewell, and Wythe Cos., May-June.

Genus *Hydropsyche* (*Ceratopsyche*)

The systematics of the large and heterogeneous genus *Hydropsyche* is still controversial. We follow the proposal of Schefter et al. (1986) to consider *Ceratopsyche* to be only a subgenus of *Hydropsyche,* pending a thorough analysis of all related groups. This subgenus is distributed across the Holarctic Realm and into southern Asia and Sundaland as far as New Guinea and Guadalcanal. Almost 100 species are known worldwide, of which about 26 are from North America, of these half are found east of the 100th meridian.

Hydropsyche (*C.*) *alhedra* Ross: This is a wide-ranging species known from Alaska all across Canada and the northern United States to the Atlantic Ocean, with extensions south in the mountains to Colorado and the Great Smoky Mountains. In Virginia it is found in the Blue Ridge and Alleghenies. Bath, Madison, Nelson, and Rockbridge Cos., May-September.

Hydropsyche (*C.*) *bronta* Ross: The species ranges widely across Canada and the United States as far west as the Rocky Mountain states, but seems to be lacking along the Gulf Coast. It is common in Virginia along the Blue Ridge and folded Appalachians, with scattered sites in the

northern Piedmont. Bath, Bedford, Carroll, Culpeper, Fauquier, Floyd, Henry, Highland, Nelson, Patrick, Pittsylvania, Roanoke, Rockbridge, Shenandoah, Smyth, Tazewell, and Wise Cos., May-October.

Hydropsyche (*C.*) *cheilonis* Ross: This species is more restricted to the east, not being recorded west of the Mississippi River. It is widespread in Virginia, primarily in the Ridge and Valley and Appalachian Plateau provinces. Bath, Bedford, Craig, Dickenson, Lee, Montgomery, Rockingham, Russell, Scott, Shenandoah, Smyth, Tazewell, Warren, Washington, Wise, and Wythe Cos., May-September.

**Hydropsyche* (*C.*) *etnieri* Schuster & Talak: This species had been previously reported only from Tennessee. The single Virginia locality extends the range northward along the Holston River system. Smyth Co., North Fork Holston River, Rt. 620 at jct. Rt. 716, near Nebo, 20 May 1993 (CSU); same data, but 15 May 2004 (NMNH).

Hydropsyche (*C.*) *macleodi* Flint: A species of the southern Appalachians, recorded from Georgia to West Virginia. In Virginia it is known only from the southern Blue Ridge in the vicinity of Mount Rogers at elevations above 1000 meters. Grayson Co., Fox Creek, 2.7 km W Troutdale, 12 June 1979 (NMNH, VPISU); Lewis Fork of Fox Creek, Rt. 603, 20 June 1981 (NMNH). Smyth Co., Grindstone Recreation Area, 7.3 km W Troutdale, 15 & 20 June 1974 (NMNH); same data, but 24 May 1975 (NMNH, VPISU); Big Laurel Creek, Forest Service Road 828, near Grindstone, 16 May 2004 (NMNH); Hurricane Creek, Hurricane Campground, 15-16 May 2004 (NMNH).

Hydropsyche (*C.*) *morosa* Hagen: This is a widespread species over North America, being known from British Columbia and Washington to the Maritime Provinces and Georgia, but lacking from the southern and western tier of states. In Virginia it is ubiquitous from the upper Piedmont to the western border. Bath, Bedford, Botetourt, Campbell, Carroll, Clarke, Craig, Dickenson, Fairfax, Fauquier, Floyd, Franklin, Giles, Highland, Louisa, Montgomery, Nelson, Page, Pittsylvania, Pulaski, Rockbridge, Rockingham, Shenandoah, Smyth, Tazewell, Warren, Washington, Wise, and Wythe Cos., April-September.

Hydropsyche (*C.*) *slossonae* Banks: Although widespread across Canada it is mostly found east of the 100th meridian in the United States, except for a southerly extension in the Rockies to Colorado. In Virginia it occurs in the Blue Ridge, the Alleghenies, and the Appalachian Plateau. Alleghany, Bath, Botetourt, Craig, Floyd, Giles, Grayson, Lee, Nelson, Patrick, Rappahannock, Rockbridge, Russell, Shenandoah, Smyth, Tazewell, and Wise Cos., May-September.

Hydropsyche (*C.*) *sparna* Ross: The species is primarily found east of the Mississippi River in North America, with a report from Kansas. In Virginia it is found everywhere from the Fall Line to the western border. Alleghany, Amherst, Bath, Bedford, Botetourt, Campbell, Caroline, Carroll, Craig, Culpeper, Dickenson, Fairfax, Fauquier, Floyd, Franklin, Giles, Grayson, Halifax, Hanover, Henry, Highland, Lee, Louisa, Madison, Montgomery, Nelson, Patrick, Prince William, Pittsylvania, Rappahannock, Rockbridge, Rockingham, Shenandoah, Smyth, Stafford, Tazewell, Washington, Wise, and Wythe Cos., April-September.

Hydropsyche (*C.*) *ventura* Ross: This is a species primarily of the northern Appalachians from Ontario to the Smokies, with a western record from Minnesota. Virginia records are scattered across the Blue Ridge and Allegheny mountains. Bath, Craig, Giles, Madison, Rockbridge, and Tazewell Cos., May-September.

Hydropsyche (*C.*) *walkeri* Betten & Mosely: The species is known in Canada from Alberta to Quebec and in the United States from North Dakota to Virginia. In this state it is found through the mountainous western third, with its southernmost known locality in Washington Co. Bath, Dickenson, Giles, Roanoke, Rockbridge, Rockingham, Russell, Scott, Smyth, Tazewell, and Washington Cos., May-September.

Genus *Hydropsyche* (*Hydropsyche*)

As mentioned under the subgenus *Ceratopsyche*, the composition of this genus/subgenus is still very controversial, especially so when one considers the world fauna. In the broadest sense (including *Ceratopsyche*, etc), it contains over 350 species found on all continents, except south of Central America in the New World. Almost 50 species occur in North America, four-fifths of them east of the 100th meridian.

Hydropsyche (*H.*) *alvata* Denning: This is primarily a southern species found up the Mississippi River basin and along the Atlantic Coastal Plain. Virginia is the northernmost known point along the Atlantic, with the species apparently limited to the Piedmont and adjacent Coastal Plain. Brunswick, Caroline, Dinwiddie, Greensville, Franklin, Halifax, Hanover, Louisa, and

Pittsylvania Cos., June-August.

Hydropsyche (*H.*) *bassi* Flint, Voshell & Parker: This is a species of limited distribution, known only from Virginia and Tennessee. In Virginia it has been found only in the southwestern corner. T.L. - Russell Co., Big Cedar Creek at Rt. 19, May 1978 (NMNH). Giles, Lee, Montgomery, Russell, Smyth, and Washington Cos., May-September.

Hydropsyche (*H.*) *betteni* Ross: This species is found everywhere in North America east of the 100th meridian. In Virginia it is statewide, although only rarely collected in the Coastal Plain. Alleghany, Bath, Bedford, Brunswick, Campbell, Caroline, Clarke, Culpeper, Dickenson, Dinwiddie, Fairfax, Fauquier, Floyd, Franklin, Giles, Greensville, Halifax, Isle of Wight, King William, Louisa, Lunenburg, Montgomery, Nelson, Patrick, Pittsylvania, Powhatan, Prince Edward, Prince William, Roanoke, Rockingham, Shenandoah, Stafford, Tazewell, Washington, Westmoreland, and Wise Cos., May-September.

**Hydropsyche* (*H.*) *brunneipennis* Flint & Butler: A rare species restricted to the central Appalachians from Pennsylvania to Tennessee. The few known localities are larger rivers in the Piedmont and Alleghenian regions. Although these are the first records from Virginia, the types were taken at the Potomac River opposite Fairfax Co. Botetourt Co., Craig Creek, Oriskany, 8 August 1998 (VMNH). Fairfax Co., Turkey Run Park, 5 August 2004 (USNM).

Hydropsyche (*H.*) *catawba* Ross: The species is found on the Piedmont from Georgia to Virginia, its northernmost distribution, where it has been found at a number of localities. Caroline, Hanover, Louisa, and Pittsylvania Cos., June-September.

Hydropsyche (*H.*) *depravata* Hagen: Although primarily an Appalachian species, *H. depravata* ranges up the Mississippi and Ohio river valleys as far as Manitoba and Ohio. In Virginia it has been found only in that part of the state in and west of the New River Valley. Dickenson, Giles, Lee, Montgomery, Russell, Smyth, Tazewell, Washington, and Wythe Cos., April-September.

Hydropsyche (*H.*) *dicantha* Ross: The species is found only in eastern North America from Minnesota east and south through the mountains to Alabama. The few Virginia records are scattered throughout the Alleghenian region. Buchanan, Dickenson, Nelson, and Shenandoah Cos., May-September.

Hydropsyche (*H.*) *fattigi* Ross: This is another southeastern species known from Alabama to Virginia. In this extremity of its range, *H. fattigi* has been found exclusively throughout the Piedmont almost to the northern border of the state. Appomattox, Bedford, Campbell, Culpeper, Fauquier, Franklin, Hanover, Louisa, Nelson, and Pittsylvania Cos, and City of Galax, May-September.

Hydropsyche (*H.*) *franclemonti* Flint: This recently described rare species is known from a few scattered localities from northwestern-most South Carolina north through the Blue Ridge into Quebec. In Virginia, it is only known from the holotype taken on the eastern edge of the Blue Ridge and several males from the New River Plateau. T.L. - Culpeper Co., Hazel River, off Rt. 707, 3 July 1981 (NMNH). City of Galax, near jct. Rts. 221 and 89, at motel lights, 17 June 2004 (USNM, VMNH).

**Hydropsyche* (*H.*) *frisoni* Ross: The species is widespread across the northern United States (but not yet in Canada) from Colorado to Connecticut, and south to Alabama. The unique Virginia record is from the Ridge and Valley province. Montgomery Co., Poverty Creek, Poverty Hollow, 16 June 1987 (CSU).

Hydropsyche (*H.*) *hageni* Banks: The species is recorded from Manitoba to Quebec and south to Alabama, but absent from New England. In Virginia it is found from the upper Piedmont to the western border. Appomattox, Carroll, Clarke, Fairfax, Giles, Montgomery, Page, Roanoke, Rockingham, Scott, Shenandoah, Warren, Washington, and Wythe Cos., and City of Radford, May-September.

Hydropsyche (*H.*) *hoffmani* Ross: The species has a limited range in the mid-Atlantic from Delaware to West Virginia south to Virginia, where it is widespread from the northern Piedmont west through the Alleghenies as far as the New River. T.L. - Montgomery Co., Radford Arsenal, 4-10 August 1956 (INHS). Arlington, Botetourt, Clarke, Fairfax, Giles, Montgomery, Page, Roanoke, Rockingham, Shenandoah, and Warren Cos., May-September.

Hydropsyche (*H.*) *incommoda* Hagen: It is difficult to obtain a true view of the range of this species because it has been consistently misidentified in the older literature. Verified records are known from Florida to Virginia, mainly in the Piedmont, to which province it seems largely restricted in Virginia. Campbell, Caroline, Charlotte, Greensville, Halifax, Hanover, Louisa, New Kent, and Pittsylvania Cos., and City of Chesapeake,

April-October.

Hydropsyche (*H.*) *leonardi* Ross: This species is endemic to northeastern North America, from Ontario and Wisconsin east to New York and south to Virginia, where it occurs in the Alleghenies and northern Blue Ridge. Bath, Clarke, Fairfax, Page, Roanoke, Shenandoah, and Warren Cos., April-October.

Hydropsyche (*H.*) *mississippiensis* Flint: This is another southeastern species found primarily in the Piedmont from Louisiana to Virginia. It is limited to the Piedmont in Virginia, where a site in Louisa County represents its northernmost locality. Bedford, Halifax, Henry, Louisa, and Pittsylvania Cos., June-September.

Hydropsyche (*H.*) *opthalmica* Flint: The species has a rather limited range in the mid-Atlantic from Pennsylvania to Virginia. In Virginia it is found from the upper Piedmont to the Alleghenian regions. Augusta, Bath, Campbell, Clarke, Page, Rockingham, Shenandoah, and Warren Cos., May-October.

Hydropsyche (*H.*) *phalerata* Hagen: This is a widespread species in North America, from Quebec south to Florida east of the Mississippi River. In Virginia it is essentially statewide west of the Fall Line although records are missing for the Appalachian Plateau counties. Appomattox, Arlington, Bedford, Campbell, Carroll, Clarke, Fairfax, Floyd, Giles, Goochland, Grayson, Halifax, Hanover, Louisa, Montgomery, Pittsylvania, Pulaski, Rockbridge, Rockingham, Shenandoah, Spotsylvania, and Warren Cos., and cities of Galax and Richmond, May-October.

Hydropsyche (*H.*) *potomacensis* Flint: This species seems to have a restricted distribution limited to the Ridge and Valley and Blue Ridge provinces of central- and southwestern Virginia. T.L. - Highland Co., bridge on Rt. 220 over East Fork Potomac River, 18-20 May 1963 (NMNH). Craig, Floyd, Giles, Highland, Lee, Montgomery, Rockbridge, Rockingham, Russell, Smyth, Tazewell, and Wythe Cos., April-September.

Hydropsyche (*H.*) *rossi* Flint, Voshell, & Parker. The species has a wide distribution in the southeast from Texas along the Gulf Coast and up the Mississippi and Ohio river valleys to Indiana, and along the Atlantic Coast to Virginia, where it is found in the Coastal Plain and Piedmont regions. Dinwiddie, Greensville, Louisa, Lunenburg, Pittsylvania, Southampton, and Sussex Cos., and cities of Chesapeake and Richmond, May-October.

Hydropsyche (*H.*) *rotosa* Ross: This species has a restricted range from Alabama to Virginia. Its northernmost known localities are in those counties in and west of the New River Valley. Montgomery, Russell, Smyth, and Wythe Cos., April-July.

Hydropsyche (*H.*) *scalaris* Hagen: Most of the earliest records of the species, and thus its reported range, are suspect because of widespread misidentification prior to 1944. There do appear to be valid records from Quebec south through the eastern states to Alabama and west to Texas. Like *H. phalerata*, it is widespread in Virginia west of the Fall Line. Alleghany, Appomattox, Augusta, Bath, Bedford, Botetourt, Caroline, Carroll, Clarke, Craig, Dickenson, Fairfax, Floyd, Giles, Grayson, Lee, Montgomery, Nelson, Rockbridge, Rockingham, Russell, Scott, Shenandoah, Smyth, Warren, Washington, and Wythe Cos., and City of Galax, May-October.

Hydropsyche (*H.*) *venularis* Banks: The species is known from Alabama north to Pennsylvania, with unsubstantiated reports from as far north as Vermont and Wisconsin. In Virginia it is primarily a species of the Piedmont, with some records from the Blue Ridge and Alleghenies. Appomattox, Bedford, Brunswick, Campbell, Caroline, Carroll, Culpeper, Dinwiddie, Fauquier, Floyd, Franklin, Giles, Grayson, Greensville, Halifax, Hanover, Henry, Louisa, Lunenburg, Montgomery, Nelson, Pittsylvania, and Pulaski Cos., and cities of Galax and Richmond, March-September.

Genus *Macrostemum*

With about 100 species, the genus *Macrostemum* is widespread through the New World, Africa, and Asia as far south as Indonesia. Only three species are known from North America, all being found in Virginia.

Macrostemum carolina (Banks): This is a southeastern species limited to east of the 100th meridian north to Pennsylvania (and possibly New York) and Illinois. In Virginia it is an exclusively Coastal Plain and Piedmont species. Brunswick, Campbell, Caroline, Chesterfield, Culpeper, Dinwiddie, Greensville, Hanover, Isle of Wight, Louisa, Mecklenburg, Nottoway, and Prince Edward Cos., and cities of Chesapeake and Suffolk, June-September.

Macrostemum transversum (Walker): This species has a more restricted range than the former, being reported from Alabama to Maryland and west to Indiana and Mississippi. It is very uncommon in Virginia collections,

known only from one locality in the Piedmont and a second in the northern Shenandoah Valley. Cumberland Co., James River at Rt. 603, 14 July 1970 (NMNH, VPISU). Warren Co., South Fork Shenandoah River, public boat landing, Front Royal, 27 June 1978 (VPISU).

Macrostemum zebratum (Hagen): This species is widespread over eastern North America as far west as the 100th meridian (with a dubious record from Utah). In Virginia it is found from the lower Piedmont west throughout the mountains, although records are lacking for the Appalachian Plateau province. Bath, Botetourt, Campbell, Caroline, Carroll, Chesterfield, Culpeper, Cumberland, Dinwiddie, Fauquier, Fairfax, Giles, Goochland, Grayson, Greensville, Hanover, Loudoun, Louisa, Montgomery, Nelson, Page, Pittsylvania, Prince William, Pulaski, Rockingham, Shenandoah, Spotsylvania, Sussex ,Warren, and Wythe Cos., and City of Richmond, May-September.

Genus *Parapsyche*

The genus is limited to the eastern and western montane regions of North America and eastern Asia. Of the slightly more than two dozen known species, seven are known from North America, five from the western and two from the eastern mountains.

Parapsyche apicalis (Banks): This species is known from the Appalachian Mountains of eastern North America from South Carolina to Quebec and west to Wisconsin. In Virginia it is limited to the Blue Ridge and Ridge and Valley Provinces, but is only infrequently collected. Bath, Giles, Grayson, Greene, Madison, and Tazewell Cos., May-September.

**Parapsyche cardis* Ross: This species is endemic to the southern Appalachians from northern Georgia to southwestern Virginia. In Virginia it is limited to a few counties around Mount Rogers, the northernmost extreme of its distribution. Grayson Co., Lewis Fork, Rt. 603, 18 May 1990 (CSU). Smyth Co., Grindstone Bridge, Grindstone Campground, 12 June 1979 (NMNH); Hurricane Creek at Hurricane Campground, 36° 43.3' N, 81° 29.2' W, 16 May 2004 (NMNH); Nicks Creek, 8 km E Marion, 24 July 1970 (NMNH); Saint Clair Bottom, Rt. 600, 18 May 1990 (CSU). Washington Co., 8 km W Konnarock, 36° 39' N, 81° 43' W, 30 June 1995 (NMNH).

Genus *Potamyia*

This is a genus primarily of Asian distribution with all but one of the nearly 30 species known from that region. Only the following species is known from eastern North America.

Potamyia flava (Hagen): This species ranges from Quebec to the Gulf and west to the 100th meridian, but is probably absent from New England. It was taken along the Potomac River in the late 1960s and early 1970s, but not before nor since. Arlington, Fairfax, and Loudoun Cos., May-August.

Family Hydroptilidae

Genus *Agraylea*

Agraylea is a genus of Holarctic distribution, divided into two subgenera, only the nominal being found in North America. Of the apparently valid, extant, dozen species, only three are found in North America.

Agraylea costello Ross: This is a northeastern species with records from Quebec to Wisconsin, south to Virginia. The one Virginia, and southernmost, record is from the central Alleghenies. Giles Co., Big Stony Creek, 13 July 1977 (VPISU, NMNH).

Agraylea multipunctata Curtis: This is a Holarctic species widely distributed across northern North America with records as far south as Colorado in the west and Tennessee in the east. The only Virginia records are old ones (pre-1910) from the northern Piedmont. Fairfax Co., Falls Church is the type locality of its synonyms *A. fraterna* Banks and *Allotrichia signata* Banks.

Genus *Dibusa*

This is a monotypic genus limited to eastern North America. The larvae are dependent on the red alga, *Lemanea australis*, for food and case, and are thus one of the few, specific, insect-plant relationships known in the caddisflies.

Dibusa angata Ross: The species is known from Ontario to Alabama, mostly east of the Mississippi River, but with a westward extension into Oklahoma. In Virginia it has been taken in the Piedmont, with one record in the Alleghenies. Bath, Caroline, Fauquier, Hanover, and Louisa Cos. February-May.

Genus *Hydroptila*

This is a large cosmopolitan genus of approximately 200 species found on all continents (except polar). More

than 125 species are known from North America, of which 29 are here recorded from Virginia. It is certain that many more species will be discovered in the state in future collections.

**Hydroptila acadia* Ross: This appears to be the second record for this species which was previously known only from Nova Scotia. The Virginia record, from the Great Dismal Swamp on the Coastal Plain, possibly represents a relict Pleistocene population. City of Chesapeake, Lake Drummond, 11 km SE Suffolk, 17 July 1964 (NMNH).

Hydroptila ajax Ross: A widely distributed species, known from Manitoba through Mexico and the Pacific to the Atlantic, it appears to be lacking in the southeastern United States and from California to New Mexico. It is known from a single collection from the Ridge and Valley Province in Virginia. Washington Co., near Glade Spring, 28 June 1976 (VPISU).

Hydroptila amoena Ross: There are scattered records of this species from Quebec to Alabama, mostly east of the Mississippi River, but with an extension west into Oklahoma. In Virginia it has been taken in several counties in the Appalachians, and one disjunct site on the Fall Line. Giles, Hanover, Rockbridge, and Washington Cos., June-September.

Hydroptila anisoforficata Parker & Voshell: This species is currently known only from Virginia, where it has been taken several times in the central Alleghenies. T.L. - Giles Co., Stony Creek, between Olean and Interior, 13 July 1977 (NMNH). Bath, Giles, Rockbridge, and Smyth Cos., July-September.

Hydroptila armata Ross: This species has been taken quite generally over North America east of the 100th meridian. In Virginia it is known mostly from the Alleghenian region, with a few records from the Piedmont. Bath, Campbell, Clarke, Fairfax, Hanover, Montgomery, Rockbridge, Russell, Shenandoah, and Washington Cos., May-October.

**Hydroptila artesia* Mathis & Bowles: This species has a disjunct distribution. It was previously known only from the Ozarks in Arkansas and Missouri, but was recently collected in the central Appalachians in western Virginia. The identity of the Virginia material has been checked against the type specimen. Bath Co., spring on Rt. 678, 1.2 km N Fort Lewis, 23 June 2003 (UT).

Hydroptila callia Denning: There are scattered records of this species from Quebec to Alabama east of the Mississippi River, with another population in the Rocky Mountain states. In Virginia it appears to be partial to the Piedmont, with one locality in the southern Blue Ridge. Caroline, Fairfax, Floyd, and Hanover Cos., June-August.

Hydroptila consimilis Morton: This is one of the most widely distributed species of the genus in North America, being reported from northern Canada south to Mexico and from the Atlantic to the Pacific. The comparatively few Virginia records are from the Alleghenian region. Dickenson, Page, and Smyth Cos., May-June.

**Hydroptila coweetensis* Huryn: This species has been reported only from Alabama and North Carolina. The unique Virginia record is from the northern Blue Ridge region, implying occurrence also south and west in that province. Madison Co., Shenandoah National Park, seeps at Big Meadows, 28 May 1984 (NMNH, determination verified by S. C. Harris).

Hydroptila delineata Morton: The species is widespread in eastern North America from Quebec to Alabama, mostly east of the Mississippi River, but with a few records from Arkansas. Virginia records are from the Piedmont and Alleghenian regions. Campbell, Caroline, Carroll, Craig, Fairfax, Franklin, Giles, Grayson, Halifax, Hanover, Montgomery, Page, Patrick, Pittsylvania, Rockbridge, and Washington Cos., May-October.

Hydroptila dentata Ross: There are scattered records of this species in the eastern United States from Maine to Virginia. Both Virginia records are from the northwestern quadrant of the state. T.L. - Page Co., Luray, 28 September 1936 (INHS). Rockbridge Co., Goshen Pass, 8 September 1976 (VPISU).

Hydroptila eramosa Harper: This uncommon species has only been reported from Ontario and Virginia. The two Virginia records are from sites in and west of the New River basin. Montgomery Co., Meadowbrook Road, Tom's Creek, 9-10 September 1976 (VPISU). Tazewell Co., Burkes Garden, Rt. 666 at second right angle turn, 13 June 1992 (VMNH).

Hydroptila fiskei Blickle: There are scattered records of this species from Maine to North Carolina. The Virginia records are, like the preceding species, from the southwestern part of the state. Giles, Grayson, Montgomery, and Wise Cos., May-August.

Hydroptila grandiosa Ross: There are records of this species from Manitoba to Texas and Alabama, mostly east

of the 100th meridian. All of the Virginia records are in or west of the New River basin. Lee, Montgomery, Russell, Scott, Smyth, and Washington Cos., June-September.

Hydroptila gunda Milne: This species is taken east of the Mississippi River from Quebec to the Gulf Coast states. In Virginia it is common in the Piedmont and mountains, although not recorded from the Appalachian Plateau region. T.L. - Falls Church, 30 July (no year on label) (MCZ). Bedford, Brunswick, Campbell, Fairfax, Fauquier, Franklin, Halifax, Henry, Lee, Montgomery, Nelson, Page, Pittsylvania, Rockingham, Russell, Scott, and Washington Cos., April-September.

Hydroptila hamata Morton: This is a very widespread species in North America from northeastern Canada, all across the United States south into Mexico. Like most of the Virginia species of the genus, it is known from the Piedmont and far southwestern region, with only a few records for the intervening folded Appalachians. Bath, Caroline, Fairfax, Hanover, Page, Stafford, and Wise Cos., April-September.

Hydroptila jackmanni Blickle: This species is reported from Manitoba to Quebec and south to Virginia, with an outlying report from Wyoming. The species is known in Virginia from a few sites in the inner Piedmont and Alleghenian regions. Bedford, Giles, Roanoke, and Smyth Cos., June.

**Hydroptila lennoxi* Blickle: This species was previously known only from New Hampshire and Alabama. This enormous lacuna is now partly filled by the unique Virginia record from the central-western Ridge and Valley Province. Bath Co., Blowing Springs Campground, Rt. 39, 13 km W Warm Springs, 16-17 May 1975 (NMNH, identified by S. C. Harris).

**Hydroptila lonchera* Blickle & Morse: This uncommon species has only been reported from three states: Alabama, New Hampshire, and Ohio. This first record from Virginia is in the Piedmont. Louisa Co., Stony Creek, Rt. 722, 25 August 1977 (VPISU).

Hydroptila maculata (Banks): This species is reported from a number of Atlantic coast states from Maine to Florida. The single Virginia record is that of the type specimen from the northern Piedmont. T.L. - Fairfax Co., Falls Church, August-September, year not given (MCZ).

Hydroptila metoeca Blickle & Morse: The species has been recorded from Labrador to Virginia and west to Minnesota. The few Virginia records are from the Piedmont and southwestern mountains. Hanover, Louisa, and Smyth Cos., June-September.

**Hydroptila perdita* Morton: The species is widespread in eastern North America from Manitoba to the Atlantic and south to Alabama, mostly east of the 100th meridian. The few Virginia localities are scattered the length of the Alleghenian region. Floyd Co., locality and date unspecified (VMNH). Rockingham Co., North River, Rt. 693, east of Mount Crawford, 22 September 1981 (NMNH). Warren Co., South Fork Shenandoah River, 5.6 km S Front Royal, 2 August 2003 (NMNH).

Hydroptila quinola Ross: The records of this species are scattered from Minnesota to Quebec and south to Arkansas and Florida. All of the known Virginia localities are in the Piedmont. Caroline, Hanover, and Louisa Cos., May-September.

Hydroptila spatulata Morton: The species is widespread in eastern North America from Manitoba south to Arkansas, and east to the Atlantic. It is widespread in Virginia from the Fall Line to the western border. Bath, Campbell, Caroline, Clarke, Fairfax, Grayson, Greensville, Hanover, Lee, Montgomery, Rockingham, Russell, Scott, Shenandoah, Warren, and Washington Cos., May-September.

Hydroptila spinata Blickle & Morse: The species is reported from a scattering of states along the eastern margin of North America from Quebec to Alabama. The two Virginia localities are in the Alleghenian region. Giles Co., Stony Creek, Rt. 722, 25 August 1977 (VPISU). Grayson Co., Fox Creek, 2.7 km W Troutdale, 12 June 1979 (NMNH).

**Hydroptila talladega* Harris: This species is known in the eastern United States from Pennsylvania to Alabama. The two Virginia records are from the Blue Ridge and Ridge and Valley provinces. Bath Co., Blowing Springs Campground, Rt. 39, 16 km W Warm Springs, 17 May 2004 (NMNH). Montgomery Co., Little Laurel Creek at the access road to Bottom Creek Gorge Preserve, 30 July 2000 (VMNH).

Hydroptila tortosa Ross: This species is known from Maine to South Carolina along the eastern coast, and inland from Minnesota. The single Virginia record is of the holotype from the northern Shenandoah Valley. T.L. - Page Co., Luray, 28 September 1936 (INHS).

**Hydroptila vala* Ross: The species is reported from Manitoba to Oklahoma and Alabama, mostly in inland

states. These new Virginia records are from the upper Piedmont and Alleghenian regions. Bath Co., Jackson River at Rt. 603, June 1973 (NMNH). Fairfax Co., Bull Run Park, 24 May 1962 (NMNH).

**Hydroptila virgata* Ross: The species is limited to eastern North America from Manitoba to Quebec and south to Oklahoma and Alabama. It has been taken several times at one locality in the upper Piedmont in northern Virginia. Fairfax Co., Bull Run Park, 20 & 24 May 1962 and 15 May 1968 (NMNH).

Hydroptila waubesiana Betten: This species is widespread across North America as far west as Saskatchewan, Montana, and Colorado, and south to the Gulf Coast states. The Virginia records are from the Piedmont west through the Alleghenian province. Louisa, Montgomery, Patrick, and Rockingham Cos., May-September.

Genus *Ithytrichia*

A small genus of less than 10 species, it is found over Europe and North America, with one disjunct species on Java. The North American species are found all across the United States and Canada, and south into northeastern Mexico.

Ithytrichia clavata Morton: The species has been recorded all across northern North America from British Columbia to Maine and south to Texas and California. However, some of the southwestern records may refer to the closely related *I. mexicana*. Virginia records are limited to the northern Shenandoah Valley in the Alleghenian Province. Clarke, Shenandoah, and Warren Cos., May-October.

Genus *Leucotrichia*

The genus contains some two dozen described species and is exclusively of New World distribution, found from the northern United States south to northwestern Argentina, and on most of the Antillean islands.

Leucotrichia pictipes (Banks): This species is widespread all across the United States from Oregon and California to Massachusetts and Alabama. In Virginia it has been taken from the upper Piedmont and Alleghenian regions. Bath, Fairfax, Fauquier, Giles, and Highland Cos., May-September.

Genus *Mayatrichia*

This is another genus exclusively of New World distribution, found from Canada south to Costa Rica. Of the seven described species, five are known from north of the Mexican border.

Mayatrichia ayama Mosely: This is a very widely distributed species from Canada to Costa Rica, and from the Rocky Mountain states east to the Atlantic. The few Virginia records are all in the Alleghenian region. Floyd, Franklin, and Rockbridge Cos., August-September.

Genus *Neotrichia*

Another genus of exclusively New World distribution, *Neotrichia* is known from Canada to Chile and on the Antillean islands. Over 100 species have been described, with many more in collections awaiting description. Sixteen species are known from north of the Mexican border.

Neotrichia vibrans Ross: This species is widespread from Manitoba to Maine, south to Alabama and west to the Rocky Mountain states and Mexico. In Virginia it has only been taken at the Fall Line in the lower Piedmont. Hanover Co., South Anna River at Rt. 657, 21 June, 5 July, 31 August, and 13 September 1977 (VPISU, VMNH). Louisa Co., North Anna River at Rt. 601, 20 July 1977 and 31 August 1977 (VPISU, VMNH); South Anna River at Rt. 522, 19 July 1977 (VMNH).

Neotrichia, indeterminate species near *riegeli* Ross: A single female from Middlesex Co., Dragon Run Swamp at Rt. 603, 4.8 km W Warner, 16 September 2004 (USNM). Collection of males at this site will enable a conclusive identification.

Genus *Ochrotrichia*

This is a large genus with over 150 species found all over the New World. North of Mexico, at least 50 species are known.

Ochrotrichia arva Ross: There are scattered records of this species in the eastern United States from Alabama to Michigan and east to Virginia. The two Virginia records are from the Alleghenian region. Montgomery Co., Mill Creek at Rt. 785, 5 June 1978 (VPISU); Little River, end of Rt. 691, 5.3 km from intersection with Rts. 672/691, 29 May 1975 (UT).

**Ochrotrichia denningi* Blickle & Morse: This species appears to be limited to the northeastern United States, from Maine to Virginia. The single Virginia collection was made on the west side of the Blue Ridge. Botetourt Co., Jefferson National Forest, ca. 9 km E Buchanan on Rt. 43, 19-20 June 1961 (NMNH).

Ochrotrichia graysoni Parker & Voshell: This is another species with a limited range in the eastern United States from Alabama to Pennsylvania. The type series was taken in the Alleghenian region. T.L. - Bath Co., Jackson River at Rt. 603, 3.2 km S Rt. 687, 11 September 1979 (NMNH). Bedford Co., Difficult Creek, Rt. 735, ca. 4.8 km W Huddleston, 13 September 2004 (VMNH).

Ochrotrichia tarsalis Ross: A widespread species in North America, it is reported from Manitoba to Mexico, mostly east of the 100th meridian. All of the reported Virginia records are in the Piedmont. Caroline, Fairfax, Hanover, and Louisa Cos., June-August.

Ochrotrichia wojcickyi Blickle: This is a widespread eastern species, reported from Manitoba to Maine and south to Virginia. The Virginia records are from the Alleghenian region. Bath Co., 13 km N Douthat State Park, 12 May 1979 (VPISU); spring on Rt. 678, 1.2 km N Fort Lewis, 23 June 2003 (UT).

Genus *Orthotrichia*

This is a large genus of over 150 species of world-wide distribution, seemingly most speciose in southeastern Asia and Australia. In the New World, the seven species are found from Canada to the Amazon River, including the Greater Antilles.

Orthotrichia aegerfasciella (Chambers): This species is known from Quebec south to South America and the Greater Antilles. In Virginia it is a species primarily of the Coastal Plain and Piedmont regions, but with some records further west. Fairfax Co., Falls Church is the type locality of its synonym *Oxyethira dorsalis* Banks. Bedford, Brunswick, Campbell, Caroline, Fairfax, Halifax, Hanover, Isle of Wight, Middlesex, Pittsylvania, Warren, and Washington Cos., and City of Suffolk, May-September.

Orthotrichia cristata Morton: The species is transcontinental in northern North America, but mostly east of the 100th meridian in the United States where it extends south to the Gulf Coast and the Greater Antilles. In Virginia it is known only from sites along the Fall Line. Caroline, Hanover, and Louisa Cos., August-September.

Genus *Oxyethira*

This is another very large genus of at least 200 species, found in all faunal realms. At least 40 species are found north of Mexico and another 75 to the south.

Oxyethira coercens Morton: The species is widespread in eastern North America, mostly east of the 100th meridian but with a record from Montana, and from Quebec to Alabama. In Virginia it is reported from the Piedmont and Alleghenian regions. Bath, Caroline, Hanover, Rockbridge, and Shenandoah Cos., June-September.

Oxyethira dualis Morton: The species is found all across the United States from the Atlantic to the Pacific, and from the Canadian to the Mexican borders. It was recorded for Virginia by Ross (1944), but without specific locality. The record is from the northern Blue Ridge: Page Co., Luray, 28 September 1936 (INHS) (C. Favret, pers. comm.).

Oxyethira forcipata Mosely: This is an eastern North America species from Quebec to the Gulf, and west to the 100th meridian. The few Virginia records are from the Piedmont and Alleghenian regions. Bath, Caroline, Hanover, and Shenandoah Cos., May-August.

Oxyethira grisea Betten: This is another eastern species, reported from Quebec to Louisiana, mostly east of the Mississippi River. The Virginia records are scattered from the Coastal Plain to the Alleghenian regions. Bath, Dinwiddie, and Fairfax Cos., and City of Chesapeake, May-July.

**Oxyethira janella* Denning: This is a species primarily of the southeastern United States, the Antilles, and Central America, with Virginia being the northernmost known locale. The two Virginia sites are in the Piedmont and Alleghenian regions. Clarke Co., Shenandoah River, 5.6 km N Rt. 50, 2 October 2002 (NMNH). Greensville Co., off Rt. 301 just south of Fountains Creek, 0.5 km S Dahlia, 6 September 2002 (VMNH, NMNH).

Oxyethira michiganensis Mosely: This is a species primarily distributed east of the 100th meridian from Quebec to Alabama, with a western record from British Columbia. Virginia records are all from the Alleghenian region. Floyd Co., Buffalo Mountain Natural Area Preserve, Rt. 758, 4 August 2003 (VMNH). Giles Co., Mountain Lake, 18-26 July 1940 (NMNH). Montgomery Co., Pandapas Pond, 3.2 km W Blacksburg, 9 September

1976 (VPISU).

Oxyethira pallida (Banks): This species occurs across North America, from Quebec to California and south to Florida. It is very widespread in Virginia, from the Coastal Plain to the western border. Bath, Brunswick, Campbell, Caroline, Clarke, Fairfax, Hanover, Isle of Wight, Louisa, Montgomery, Pittsylvania, Smyth, Washington, and Wythe Cos., May-October.

**Oxyethira pescadori* Harris & Keth: This recently described species was known only from Florida and Alabama, where it is fairly common on the Coastal Plain. The present record, the first for Virginia, greatly extends its known range northward along the Atlantic Coastal Plain. Middlesex Co., Dragon Run Swamp at Rt. 603, 4.8 km W Warner, 16 September 2004 (NMNH).

Oxyethira rivicola Blickle & Morse: This is another species of eastern North America with scattered records from Quebec to Alabama and west to the 100th meridian. In Virginia it has only been taken in the Piedmont. Fairfax Co., Bull Run Park, 18 June 1962 (NMNH). Louisa Co., South Anna River at Rt. 522, 21 June 1977 (VPISU).

Oxyethira zeronia Ross: The distribution of this species is much like the former, Quebec to Florida and west to the 100th meridian. It seems to be an inhabitant of the Coastal Plain and Piedmont in Virginia. Brunswick, Franklin, Hanover, and Louisa Cos., and City of Virginia Beach, August-September.

Genus *Palaeagapetus*

This is a small genus of nine described species, six from eastern Asia and three from North America. Several fossil species have also been described. The larvae of all species with known biology are associated with aquatic/subaquatic liverworts (e.g., *Scapanea)* growing in springs.

Palaeagapetus celsus (Ross): This is a species of the Appalachians from Quebec to the Great Smoky Mountains. In Virginia it is known from the Blue Ridge and Alleghenian regions. Giles, Grayson, Highland, Shenandoah, Tazewell, and Washington Cos., May-October.

Genus *Stactobiella*

This is a small genus of 10 or 11 described species with a few representatives in Europe, but primarily of eastern Asia and North America. Five species have been described from North America, three of which occur in Virginia.

Stactobiella delira (Ross): This species is widespread across North America from British Columbia to California and east to Maine and Alabama. In Virginia it is known from the Piedmont to the Alleghenian regions. Appomattox, Bath, Caroline, Fauquier, Grayson, Hanover, Pulaski, and Rockbridge Cos., April-June.

Stactobiella martynovi Blickle & Denning: The distribution of this species in eastern North America is limited to the Appalachian Mountains from Pennsylvania to Alabama. The Virginia records are from the Blue Ridge and Alleghenian regions. Giles Co., Stony Creek, Rt. 635, 28 June 1978 (VPISU). Patrick Co., small tributary to Dan River, ca. 1.6 km N Kibler on Rt. 648, 29 June 2003 (VMNH, NMNH).

Stactobiella palmata (Ross): This species has a scattered distribution across North America from Alberta and Oregon to Maine and Alabama. In Virginia it is a Piedmont species. Caroline, Hanover, Henry, and Pittsylvania Cos., May-June.

Family Philopotamidae

Genus *Chimarra*

This large genus of over 550 species is found in all non-polar regions of the world. Approximately 225 species have been described from the Neotropical Realm, and about another 20 from north of Mexico.

Chimarra aterrima Hagen: This species has been recorded from most every state and province east of the 100th meridian in North America. In Virginia, it is known from the Fall Line to the western border. Alleghany, Appomattox, Arlington, Augusta, Bath, Bedford, Caroline, Carroll, Craig, Dinwiddie, Fairfax, Fauquier, Franklin, Giles, Greensville, Halifax, Hanover, Highland, Lee, Louisa, Lunenburg, Montgomery, Nottoway, Page, Pittsylvania, Prince William, Rappahannock, Rockbridge, Rockingham, Russell, Shenandoah, Smyth, Tazewell, Washington, and Wythe Cos., May-October.

Chimarra augusta Morse: This species is rather narrowly limited to the East Coast of the United States from Alabama to Virginia. In this state it occurs in the Piedmont. Caroline, Fauquier, Hanover, and Louisa Cos., May-October.

Chimarra moselyi Denning: This is primarily a southeastern species known from Florida to Louisiana and north to Illinois and Virginia. It is an inhabitant of the Piedmont and upper Coastal Plain regions in Virginia. Caroline, Greensville, Hanover, Louisa, Southampton, and Sussex Cos., May-September.

Chimarra obscura (Walker): This is another widespread species in North America, found nearly everywhere east of the 100th meridian. It is found from the upper Coastal Plain region to the western border of Virginia. Appomattox, Bath, Brunswick, Caroline, Cumberland, Culpeper, Dinwiddie, Fairfax, Giles, Greensville, Halifax, Hanover, Henrico, Louisa, Lunenburg, Nelson, Page, Pittsylvania, Prince William, Rockbridge, Russell, Shenandoah, Smyth, Warren, and Wise Cos., May-October.

Chimarra socia Hagen: This is another species which is widespread east of the 100th meridian in North America. Most of the Virginia records are from the Alleghenian region, with a few from the Piedmont and Blue Ridge provinces. Bath, Botetourt, Carroll, Dinwiddie, Giles, Grayson, Lee, Louisa, Montgomery, Prince Edward, Rockbridge, Scott, Shenandoah, and Smyth Cos., May-September.

Genus *Dolophilodes*

The genus was divided by Ross (1956) into a number of subgenera, many of which are now recognized as separate genera by some authors, but there is no general consensus on the subject. In its broadest sense, there are nearly 100 species contained from all regions of the world. Three subgenera, with a total of ten species, are represented in North America.

Dolophilodes distinctus (Walker): This species occurs in eastern North America from Quebec to Alabama, mostly east of the Mississippi River, but with an extension west to Minnesota. It is found all across Virginia except for the Coastal Plain. Albemarle, Alleghany, Augusta, Bath, Botetourt, Clarke, Dickenson, Fairfax, Fauquier, Floyd, Franklin, Giles, Grayson, Hanover, Henry, Highland, Lee, Madison, Montgomery, Nelson, Page, Patrick, Prince Edward, Rappahannock, Rockbridge, Rockingham, Shenandoah, Smyth, Tazewell, Warren, Washington, Wise, and Wythe Cos., February-October.

Dolophilodes major (Banks): This species is restricted to the Appalachian Mountains from Alabama to Virginia. All of the Virginia localities are in the Blue Ridge Province. Amherst, Greene, Grayson, Madison, Page, Rappahannock, and Smyth Cos., June-July.

**Dolophilodes sisko* (Ross): The species has a very strange distribution, being reported from Oregon on the west coast, and the southern Appalachians (North and South Carolina) on the East Coast. There is now a single record of this species from the Blue Ridge province in Virginia: Madison Co., Hogcamp Branch, 690 m (2250 ft), Shenandoah National Park, 8 July 1973 (NMNH).

Genus *Wormaldia*

This genus of two subgenera contains about 100 species in the nominate subgenus and another 40 in the subgenus *Doloclanes.* The species are common across the northern Hemisphere, with a few in southern Africa and Madagascar, and through Central and South America. All of the 14 North American species are in the subgenus *Wormaldia,* with the exception of *W. mohri* which is in *Doloclanes.*

Wormaldia moesta (Banks): This species is widespread in North America east of the 100th meridian. In Virginia it is an inhabitant primarily of the Blue Ridge and Alleghenian regions, but is occasionally taken in the Piedmont (and even more rarely, the Coastal Plain) as well. Albemarle, Alleghany, Amherst, Augusta, Bath, Botetourt, Chesterfield, Clarke, Dickenson, Essex, Fairfax, Fauquier, Floyd, Franklin, Giles, Greene, Grayson, Hanover, Highland, Lee, Madison, Montgomery, Nelson, Page, Patrick, Rappahannock, Rockbridge, Smyth, Spotsylvania, Rockingham, Tazewell, Warren, Washington, and Wythe Cos., March-December.

**Wormaldia mohri* (Ross): This species was previously known only from the states surrounding the Great Smoky Mountains. The only Virginia locality is near Mount Rogers in the southern Blue Ridge. Smyth Co., Hurricane Creek, Hurricane Campground, 12 June 2002 (NMNH).

Wormaldia shawnee (Ross): There are scattered records of this species from Arkansas to Maine and south to Alabama. The few Virginia records are from the Coastal Plain and lower Piedmont regions. Isle of Wight Co., Antioch Pines Natural Area Preserve, 5 km S Zuni, 21 May 1996 (VMNH, NMNH); Blackwater Ecological Preserve, 7 km S Zuni, 21 May 1996 (VMNH). Louisa Co., South Anna River at Rt. 522, 21 May 1979 (VPISU).

Wormaldia thyria Denning: This species has a restricted range in the Appalachians from South Carolina to Virginia. Our Virginia records are from the upper

Piedmont and Blue Ridge regions. Fauquier Co., Catharpin Creek, Jackson Hollow, 25 July 1964 (NMNH). Rockbridge Co., Nature Camp, Big Mary's Creek, Vesuvius, 13 & 15 July 1960 (VPISU). Rockingham Co., Hone Quarry Campground, 17-18 July 1964 (NMNH).

Family Polycentropodidae

Genus *Cernotina*

This is a genus restricted to the New World and is very diverse in the Neotropical Realm. Over 60 species have been described from the Neotropics, but only seven from north of Mexico.

Cernotina pallida (Banks): This species is known from Ontario to Ohio and Maryland. Banks (1907) reported it from Virginia without locality, and the specimen cannot be located. However, the species was described from examples taken nearby along the Potomac River in Maryland and the District of Columbia.

Cernotina spicata Ross: The species is widespread in North America east of the 100th meridian from Ontario to Louisiana. In Virginia it has been taken only in the Coastal Plain and lower Piedmont regions. Caroline, Greensville, Halifax, Hanover, Louisa, Pittsylvania, and Sussex Cos., and City of Chesapeake, May-September.

Cernotina truncona Ross: The species is recorded from Florida to Virginia. All of the Virginia localities are from the Great Dismal Swamp on the Coastal Plain. City of Chesapeake, Lake Drummond, 11 km SE Suffolk, 6-7 July 1962, 31 August 1962, 17 July 1964, 4-9 June 1974, and October 1976 (NMNH).

Genus *Cyrnellus*

As with *Cernotina,* this genus is primarily Neotropical in diversity. Of the dozen species, one is also widespread into North America.

Cyrnellus fraternus (Banks): This is one of the most wide-ranging species of caddisfly in the New World, being known from Argentina to the northern border of the United States. It is widespread east of the 100th meridian, and in Virginia it is primarily a species of the Piedmont with a few collections from the Ridge and Valley and Coastal Plain provinces. Bedford, Campbell, Caroline, Greensville, Halifax, Hanover, Louisa, Lunenburg, Mecklenburg, New Kent, Shenandoah, Southampton, and Warren Cos., and City of Chesapeake, June-September.

Genus *Neureclipsis*

The genus contains about 10 species, mostly from the Holarctic Realm, but one species is described from Australia. Five species are known from North America.

Neureclipsis crepuscularis (Walker): The species ranges from Alberta and Montana to the Atlantic, but in the United States it is found mostly east of the 100th meridian all the way south to the Gulf Coast. The Virginia records are from the Piedmont west through the Alleghenian region. Bath, Caroline, Carroll, Clarke, Dickenson, Fairfax, Fauquier, Frederick, Giles, Grayson, Greensville, Halifax, Hanover, Montgomery, Rockingham, Shenandoah, Sussex, Washington, and Wythe Cos., and City of Galax, May-September.

Genus *Paranyctiophylax*

As presently composed, this genus is known from all of the faunal realms (but not Europe) and contains over 100 species. Some unpublished studies suggest that it is paraphyletic, which would require generic name changes in the future. Four or five species have been described from South America, and about ten others from North America.

Paranyctiophylax affinis (Banks): This is widely distributed from the Atlantic to the Pacific in Canada, but mostly east of the 100th meridian in the United States, with western records from Montana and Wyoming. In Virginia the species is known primarily from the Piedmont, with a few records from the Alleghenian region and one from the Coastal Plain. Brunswick, Caroline, Dinwiddie, Fairfax, Franklin, Giles, Greensville, Halifax, Hanover, Pittsylvania, Prince William, and Wise Cos., and City of Virginia Beach, June-September.

Paranyctiophylax celtus (Denning): The species is widespread east of the 100th meridian in North America from Manitoba to Texas, and Quebec to Florida. In Virginia it is recorded from the Fall Line to the western border of the state. Bath, Botetourt, Clarke, Fauquier, Giles, Greensville, Rappahannock, Rockbridge, Rockingham, Russell, Scott, Smyth, Warren, and Washington Cos., May-September.

**Paranyctiophylax denningi* Morse: The range of this species is limited to the southeastern United States from Mississippi northeast to Pennsylvania. The one Virginia record is from the Piedmont. Pittsylvania Co., Whitethorn Creek at Rt. 683, 11 km SE Gretna, 7 September 2001 (VMNH).

Paranyctiophylax moestus (Banks): This species is widely distributed from Alaska to Nova Scotia, and then south through the United States east of the 100th meridian, with two western records from Oregon and Montana. Most Virginia localities are in the Blue Ridge and westward, that for Greensville County on the Fall Line is notably disjunct. Dickenson, Floyd, Greensville, Rappahannock, Rockbridge, Smyth, and Wise Cos., April-July.

Paranyctiophylax nephophilus (Flint): This is a southeastern species known from Alabama to Pennsylvania. In Virginia it seems to be distributed along the Blue Ridge, and immediately adjacent areas. Bath, Fauquier, Floyd, Franklin, Rockbridge, and Smyth Cos., May-July.

**Paranyctiophylax serratus* (Lago & Harris): Another southeastern species, it was previously known only from Alabama and Mississippi. The two Virginia sites are widely separated, one in the Blue Ridge, the other on the Coastal Plain, in totally different biotopes. Franklin Co., Pigg River, 0.8 km upstream of Rt. 890 bridge, ca. 4.8 km SW Penhook, 5 September 2002 (VMNH), same data, but 24 June 2003 (NMNH). Middlesex Co., Dragon Run Swamp at Rt. 603, 4.8 km W Warner, 20 May 2003 (NMNH).

Genus *Polycentropus*

This very large genus has been variously divided into several genera by workers in other parts of the world. In the broadest sense (as employed here), it would contain several hundred species, and occur all over the world. Around 70 species have been described from the Neotropical Realm, and almost 50 from the Nearctic Realm. Half of the 14 Virginia species are newly recorded from the state.

**Polycentropus blicklei* Ross & Yamamoto: This species has a spotty distribution east of the Mississippi River in North America from Quebec to Mississippi. The Virginia records are also scattered across the state from near sea level in the Coastal Plain to above 1000 meters in the western mountains. Essex, Frederick, Franklin, Grayson, King & Queen, Lee, Nelson, and Tazewell Cos., May-October.

Polycentropus carolinensis Banks: This species is limited to eastern North America from Quebec to North Carolina. Virginia records are from the Blue Ridge and Alleghenian regions. Floyd, Grayson, Madison, Rockingham, Smyth, and Tazewell Cos., June-August.

**Polycentropus centralis* Banks: The species is widespread in North America east of the 100th meridian, but unreported from most of the Atlantic coastal states. The first Virginia collection was labeled as coming from Back Creek in Giles Co., but doubtless through a clerical error since R. Strickler, the collector, worked primarily on Back Creek and the Jackson River in Bath Co., and there is no Back Creek in Giles Co. The recent rediscovery of this species at what is likely the same site as Strickler's lends credence to this presumption. Labeled Giles Co. [probably Bath Co.], Big Back Creek, campground, 27 June 1973 (or 1974) (NMNH); Bath Co., Back Creek, Blowing Springs Campground, Rt. 39, 16 km W Warm Springs, 17 May 2004 (NMNH).

Polycentropus cinereus Hagen: This species is found all over North America except for the far southwestern states. It is possible that some of these records are actually *P. harpi* Moulton & Stewart, but time has not permitted their verification. It is widespread west of the Fall Line in Virginia, with only one locality (Essex Co.) in the Coastal Plain. Appomattox, Bath, Caroline, Clarke, Dickenson, Essex, Fairfax, Fauquier, Floyd, Giles, Grayson, Halifax, Hanover, Highland, Lee, Louisa, Montgomery, Page, Patrick, Pittsylvania, Pulaski, Rappahannock, Rockbridge, Rockingham, Shenandoah, Smyth, Tazewell, Wise, and Wythe Cos., May-October.

Polycentropus clinei (Milne): This species has a scattered distribution from Minnesota to Newfoundland and south to Mississippi. The Virginia records are from four counties in the mountains and one highly disjunct site (Great Dismal Swamp) on the Coastal Plain, with no representation in the entire Piedmont region. Bath, Giles, Highland, and Nelson Cos., and City of Chesapeake, July-August.

Polycentropus confusus Hagen: This species is common and widespread east of the 100th meridian in North America. In Virginia it is found throughout the Alleghenian region with one locality in the inner Piedmont. Bath, Craig, Fauquier, Franklin, Giles, Grayson, Lee, Montgomery, Patrick, Pittsylvania, Rockingham, Russell, Smyth, and Washington Cos., May-October.

**Polycentropus crassicornis* Walker: The species is widespread in North America from the Atlantic seaboard west to the 100th meridian and further into Idaho and Saskatchewan. In Virginia it is most frequently encountered on the Coastal Plain and Piedmont, with one report from the northern Alleghenian region. Essex, Fairfax, Greensville, Isle of Wight, Louisa, Shenandoah,

Southampton, and Sussex Cos., and cities of Chesapeake and Suffolk, April-June.

Polycentropus elarus Ross: This species has a scattered distribution in North America east of the Mississippi River from Quebec to Alabama. It is a denizen of the Blue Ridge and Alleghenian regions in Virginia. Bath, Madison, Rockbridge, Rockingham, and Smyth Cos., May-July.

**Polycentropus interruptus* (Banks): The species is transcontinental in Canada, but only inhabits the northern states in the United States from North Dakota to Maine and south to Tennessee, with outliers in Colorado and Florida. These first Virginia reports are from the southern Coastal Plain. Isle of Wight Co., Blackwater Ecological Preserve, 7 km S Zuni, 9 May 1995 (VMNH). City of Virginia Beach, Seashore [= First Landing] State Park, 1-4 June 1975 (NMNH).

Polycentropus maculatus Banks: The species is found in eastern North America from Newfoundland to South Carolina along the Appalachian Mountains. The Virginia records are from the Blue Ridge Province and westward to the state border. Bath, Giles, Grayson, Madison, Rockbridge, Rockingham, Washington, and Wise Cos., June-September.

**Polycentropus nascotius* Ross: This species has a very spotty distribution from Minnesota to Nova Scotia and south to Oklahoma and Alabama. The one Virginia record is from the northern Alleghenian region. Clarke Co., Blandy Experimental Farm, 3.2 km S Boyce, 25 May-4 June 1993 (NMNH).

**Polycentropus pentus* Ross: This species is found in North America from Manitoba to Nova Scotia and south to Alabama, mainly east of the Mississippi River, with an outlying record from Wyoming. The unique Virginia record is from the central-western Alleghenies. Bath Co., Douthat State Park, 17-18 May 2003 (NMNH).

**Polycentropus pixi* Ross: This species has a very limited distribution in the eastern United States from New Hampshire to Virginia. The two Virginia records are from the western Alleghenian region. Bath Co., Back Creek, Blowing Springs Campground, Rt. 39, 16 km W Warm Springs, 17 May 2004 (NMNH). Rockingham Co., Hone Quarry Campground, 17-18 July 1964 (NMNH).

Polycentropus rickeri Yamamoto: The species has a rather limited distribution along the Appalachian Mountains from Pennsylvania to Alabama. Both Virginia records are from the Blue Ridge. Madison Co., Hogcamp Branch, Shenandoah National Park, 8 July 1961 (NMNH). Rockbridge Co., Nature Camp, Big Mary's Creek, Vesuvius, 13 July 1960 (VPISU).

Family Psychomyiidae

Genus *Lype*

The genus is widely distributed across the Northern Hemisphere with species reported from Africa and southern Asia. About 15 species are described, with only one recorded from eastern North America.

Lype diversa (Banks): This species is widely distributed in eastern North America as far west as the 100th meridian, with a discontinuous record from Alberta. It is statewide in Virginia although only rarely taken in the Coastal Plain. Albemarle, Bath, Bland, Caroline, Carroll, Craig, Culpeper, Dickenson, Fairfax, Fauquier, Floyd, Franklin, Giles, Grayson, Hanover, Henry, Highland, James City, King & Queen, Lee, Louisa, Madison, Montgomery, Page, Patrick, Pittsylvania, Prince William, Rappahannock, Rockbridge, Rockingham, Scott, Shenandoah, Smyth, Tazewell, Washington, and Wythe Cos., February-September.

Genus *Psychomyia*

Species of this genus are distributed across the Northern Hemisphere and Asia south into Indonesia, but seem to be lacking in Australia, Africa, and the Neotropical Realm. Most of the more than 100 described species are known from southern Asia, with only three found in North America.

Psychomyia flavida Hagen: The species is transcontinental from British Columbia to California and Nova Scotia to Florida, but seems to be missing in the southwestern states. It is equally widespread in Virginia from the Piedmont to the western border. Amherst, Appomattox, Augusta, Bath, Bedford, Campbell, Caroline, Carroll, Craig, Culpeper, Dickenson, Fauquier, Floyd, Giles, Grayson, Hanover, Highland, Lee, Louisa, Montgomery, Page, Patrick, Pittsylvania, Roanoke, Rockbridge, Rockingham, Russell, Shenandoah, Smyth, Spotsylvania, Tazewell, Warren, Washington, and Wythe Cos., and City of Galax, April-September.

Psychomyia nomada (Ross): This species has a rather restricted distribution in eastern North America from Quebec south along the Appalachian Mountains to Alabama, with an incongruous record from Oregon. The

Virginia records are primarily from the Blue Ridge with outliers in the adjacent upper Piedmont and Alleghenian regions. Botetourt, Fauquier, Floyd, Franklin, Patrick, Pittsylvania, Rappahannock, Rockbridge, Smyth, and Wythe Cos., May-September.

Family Rhyacophilidae

Genus *Rhyacophila*

With almost 500 described species, this is one of the largest genera of caddisflies. It is primarily found in the Northern Hemisphere, with extensions in southeastern Asia into Indonesia. It is absent from sub-Saharan Africa, Australia, and the Neotropics. In North America over 125 species are known. Eight of the 23 Virginia species are newly recorded from the state.

Rhyacophila acutiloba Morse & Ross: This is a species of the Appalachian Mountains from Maine to South Carolina. The few Virginia localities are in the Blue Ridge and Alleghenian regions. Bath, Montgomery, and Rockbridge Cos., April-June.

**Rhyacophila appalachia* Morse & Ross: This species is restricted to the central and southern Appalachian Mountains from Kentucky and Virginia to South Carolina. Virginia records are from the southern part of the western Piedmont and Blue Ridge provinces. Floyd Co., roadside alder swamp at jct. Rts. 860 & 637, 4.8 km SE Floyd, 28 April 1991 (VMNH). Franklin Co., Grassy Fork Creek at Rt. 619, 3.2 km SE Snow Creek, 36°48.6' N, 79°44.7' W, 14 May 2004 (NMNH). Grayson Co., drift fence site on Whitetop Mountain, also down road at seepage area, 23 June 1994 (VMNH). Patrick Co., small rivulet on Rt. 609, ca. 0.6 km E jct. Rt. 764, 10 June 2000 (VMNH). Smyth Co., Grindstone Bridge, Grindstone Campground, 12 June 1979 (NMNH); Laurel Spring Run, Laurel Spring Road, 1.0 km S I-81 overpass, 27 April 2003 (UT).

**Rhyacophila atrata* Banks: The species is recorded from the Appalachian Mountains from Nova Scotia to South Carolina with a dubious record from Colorado. The Virginia records are from the vicinity of Mount Rogers and the Alleghenies immediately to the west. Grayson Co., headwaters of Fox Creek, 9.5 km W Troutdale, 11 June 1979 (NMNH); Fox Creek, 2.7 km W Troutdale, 12 June 1979 (NMNH). Russell Co. (detailed collection data not available). Tazewell Co., East Fork Cove Creek, Rt. 662, 12 June 1983 (VPISU). Washington Co., Straight Branch, Beartree Campground, 12 June 1979 (NMNH).

Rhyacophila banksi Ross: A species restricted to northeastern North America, it is recorded from Quebec to Tennessee, with outlying populations in Arkansas and Missouri. The Virginia records are from the Blue Ridge and Alleghenian regions. Bath, Craig, Giles, Highland, Montgomery, Nelson, Rockbridge, Rockingham, and Washington Cos., May- September.

Rhyacophila carolina Banks: This species is widespread in eastern North America from Newfoundland and Ontario south to Florida, and west to Missouri. It is widespread in Virginia from the Piedmont to the western border. Albemarle, Amherst, Bath, Botetourt, Carroll, Dickenson, Fairfax, Fauquier, Floyd, Franklin, Giles, Grayson, Halifax, Highland, Lee, Louisa, Madison, Montgomery, Nelson, Page, Patrick, Rappahannock, Roanoke, Rockbridge, Rockingham, Scott, Shenandoah, Smyth, Tazewell, Washington, Wise, and Wythe Cos., April-September.

Rhyacophila carpenteri Milne: This is a species of the eastern mountains from Newfoundland and Quebec south to South Carolina and west to Ohio. It is found in the Blue Ridge and Alleghenian regions in Virginia. Amherst, Bath, Botetourt, Dickenson, Giles, Grayson, Madison, Montgomery, Rappahannock, and Smyth Cos., May-July.

**Rhyacophila formosa* Banks: The species occurs throughout the Appalachian Mountains from Quebec to Alabama. The three known Virginia records are from the Alleghenian region. Bath Co., Back Creek, upstream of confluence with Jackson River, 1973 (VPISU). Floyd Co., Big Indian Creek at Indian Valley Road, 14 June 2003 (C. R. Parker Collection). Shenandoah Co., Shenandoah River near Woodstock, 20 October 1962 (NMNH).

Rhyacophila fuscula (Walker): This species is widely distributed over eastern North America from Newfoundland to Minnesota and south to Alabama, mostly east of the Mississippi River with a doubtful record for Wyoming. In Virginia it is recorded from the upper Piedmont to the western border. Amherst, Bath, Bedford, Bland, Botetourt, Carroll, Craig, Dickenson, Fauquier, Floyd, Franklin, Giles, Greene, Grayson, Henry, Highland, Madison, Montgomery, Orange, Page, Patrick, Rappahannock, Rockbridge, Rockingham, Russell, Shenandoah, Smyth, Washington, and Wythe Cos., April-October.

Rhyacophila glaberrima Ulmer: The species is widely distributed over eastern North America from Quebec to Alabama and west to Missouri and Arkansas. The Virginia records are from the Blue Ridge and Alleghenian

regions. Amherst, Bath, Botetourt, Carroll, Craig, Giles, Grayson, Henry, Madison, Montgomery, Rappahannock, Rockbridge, Rockingham, Smyth, and Tazewell Cos., July-October.

Rhyacophila invaria (Walker): This is another northeastern species known from Newfoundland to Wisconsin and south to North Carolina. In Virginia the few records are from the upper Piedmont and Blue Ridge regions. Augusta Co., Paine Run, Shenandoah National Park, 18 May 1987 (CSU). Fauquier Co., Catharpin Creek, Jackson Hollow, 9 June 1962 (NMNH); Lambdon's Spring Run, 31 May 1975 (VPISU).

Rhyacophila kondratieffi Parker: This species has only been reported from Virginia, where it is known from the southern Blue Ridge. David A. Etnier (pers. comm.) has taken the species in Carter Co. in Tennessee, the first known record outside of Virginia. T.L. - Patrick Co., Little Rock Castle Creek, Rt. 605 off Rt. 8, 13 May 1979. Giles, Grayson, Patrick, Smyth, and Wise Cos., May-July.

**Rhyacophila ledra* Ross: The species occurs east of the Mississippi River from Michigan to Pennsylvania and south to Alabama. In Virginia it has been found primarily on the Coastal Plain and Piedmont regions, with a few records westward into the Alleghenian region. Carroll, Clarke, Essex, Fairfax, Hanover, Isle of Wight, Lee, Loudoun, and Louisa Cos., May-July.

**Rhyacophila manistee* Ross: This species is restricted to northeastern North America from Ontario to Maine and south to Virginia. The few Virginia records are from the Ridge and Valley province. Bath Co., Blowing Springs, Rt. 39, 16 km W Warm Springs, 38°04.2' N, 79°53.3' W, 17 May 2004 (NMNH). Bland Co., North Fork Holston River, Rt. 610, 6.4 km SW Ceres, 27 May 1992 (D. E. Ruiter Collection). Highland Co., E. Fork Potomac River, Rt. 220, 18-20 May 1963 (NMNH). Smyth Co., North Fork Holston River, Rt. 620 at jct. Rt. 716, near Nebo, 17 May 1990 and 16 May 2004 (CSU); North Fork Holston River, Rt. 622, Nebo, 36°56.8' N, 81°26.5' W, 15 May 2004 (NMNH).

Rhyacophila minora Banks: This species, closely related to the preceding, has a wider distribution, being reported from Ontario to Newfoundland and south to Alabama, all east of the Mississippi River. In Virginia, all of the counties of record except Franklin are in the Blue Ridge and Alleghenian regions. Bath, Franklin, Giles, Grayson, Highland, Madison, Rockbridge, Rockingham, Smyth, Tazewell, and Washington Cos., May-June.

Although some recent authors use the name *R. minor* for this species, we use *R. minora* because it is the correct original spelling in the meaning of Article 32.2 of the International Code of Zoological Nomenclature and is to be preserved unaltered.

**Rhyacophila mycta* Ross: This species had previously been reported only from the Great Smoky Mountains in North Carolina and Tennessee. The new northernmost records in Virginia are all clustered around Mount Rogers in the southern Blue Ridge, above 1000 meters. Grayson Co., headwater tributaries of Lewis Fork, off Rt. 603, 29 May 1982 and 5 June 1982 (VPISU); Helton Creek, Mount Rogers Trail, 24 July 1982 (VPISU); Whitetop Creek, Forest Service Road 89, 13 August 1979 (VPISU). Smyth Co., Big Branch off Rt. 600, Whitetop Mountain, 28 May 1983 (VPISU); spring seeps near Grindstone Campground, 14 August 1979 and 7 June 1980 (VPISU).

Rhyacophila nigrita Banks: The species is widespread and common in the eastern mountains from Newfoundland to Alabama. It is recorded from the Blue Ridge and Alleghenian regions in Virginia. Alleghany, Bath, Floyd, Giles, Grayson, Highland, Lee, Montgomery, Patrick, Rockbridge, Smyth, Tazewell, Washington, and Wythe Cos., May-August.

**Rhyacophila otica* Etnier & Way: This uncommon species has only been recorded from Pennsylvania to Tennessee. The Virginia record, from the Cumberland Plateau region on the Kentucky border, is thus on the eastern edge of this distribution. Dickenson Co., Breaks Interstate Park, 1-14 July 2000 (VMNH).

Rhyacophila parantra Ross: This species is recorded from northeastern North America from Quebec to Indiana and south to Tennessee. In Virginia it is known from the central and southwestern Alleghenies. Craig, Dickenson, Pulaski, Russell, Tazewell, and Washington Cos., May-June.

Rhyacophila shenandoahensis Flint: The species is apparently endemic to Virginia (excepting a dubious record for Ontario); its small range extends from the northern Blue Ridge south and west to Burkes Garden. Eventual discovery in West Virginia and Kentucky seems possible. T.L. - Madison Co., White Oak Canyon, Shenandoah National Park, 21 June 1955 (NMNH). Albemarle, Madison, Nelson, Page, Rappahannock, and Tazewell Cos., May-July.

**Rhyacophila teddyi* Ross: This species had been known only in the southern Appalachians from Alabama

to North Carolina. These new Virginia records, both from the Blue Ridge, extend the known range substantially to the north. Albemarle Co., Moormans River, Shenandoah National Park, 21 July 1973 (NMNH). Madison Co., Hogcamp Branch, Shenandoah National Park, 8 July 1973 (NMNH).

Rhyacophila torva Hagen: The species is widespread over eastern North America, east of the Mississippi River from Nova Scotia to Wisconsin, south to Alabama, with a questionable record from Wyoming. The Virginia records are from the Blue Ridge and Alleghenian regions. Augusta, Bath, Dickenson, Fairfax, Floyd, Giles, Grayson, Madison, Montgomery, Nelson, Page, Patrick, Rappahannock, Rockbridge, Rockingham, Smyth, Tazewell, and Washington Cos., February-September.

Rhyacophila tricornuta Sykora & McCabe: This species is only known from a single locality near Mount Rogers. T.L. - Smyth Co., Hurricane Campground next to Hurricane Creek, Mount Rogers National Recreation Area, 22 May 1994 (CMNH); same data, but 16 May 2004 (NMNH).

Rhyacophila vibox Milne: This species is widely distributed in northeastern North America from Newfoundland to Minnesota south, east of the Mississippi River, to Tennessee. Virginia collections are from a single site in the Alleghenian region. Montgomery Co., headwaters of Craig Creek, Rt. 621, 0.8 km E Rt. 460, 17 May 1980, 22 May 1980, 4 June 1980, and 5 June 1983 (VPISU).

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